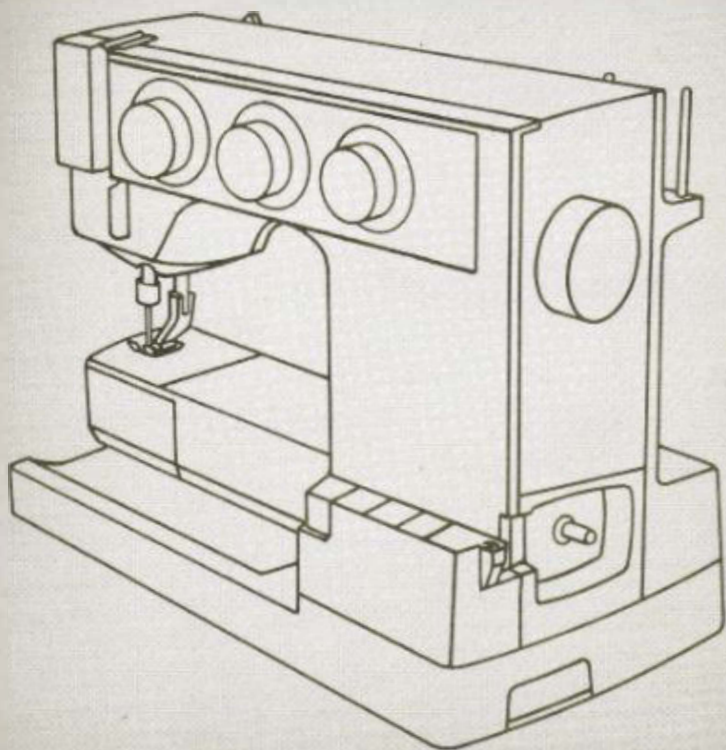
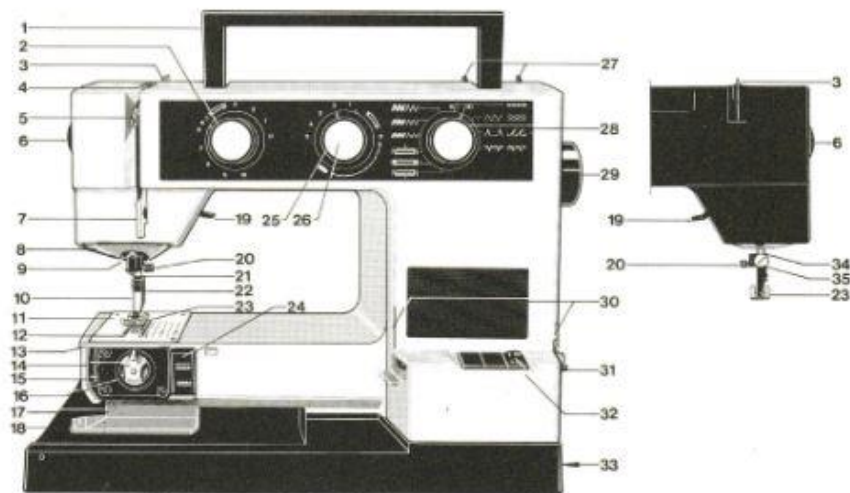


OPERATING MANUAL

Model 3500



Survey of the machine



- | | | |
|--|-----------------------------|-------------------------------------|
| 1. Handle | 12. Feed dog | 24. Drop feed button |
| 2. Thread tension dial | 13. Free arm | 25. Stitch length dial |
| 3. Thread guide | 14. Bobbin case | 26. Reverse feed button |
| 4. Thread tension discs | 15. Thread cutter | 27. Spool pins |
| 5. Thread take-up lever | 16. Shuttle (hook) | 28. Stitch selector |
| 6. Presser foot pressure dial | 17. Door for shuttle (hook) | 29. Handwheel |
| 7. Front thread guide with thread take-up spring | 18. Base plate | 30. Thread guide for bobbin winding |
| 8. Sewing light | 19. Presser bar lever | 31. Bobbin winding spindle |
| 9. Needle bar | 20. Needle clamp screw | 32. Main switch |
| 10. Needle | 21. Presser bar | 33. Socket for foot control |
| 11. Needle plate (stitch plate) | 22. Presser foot ankle | 34. Thread cutter |
| | 23. Presser foot | 35. Screw for edge guide |

Unpacking

Place the machine on the table and remove the plastic packing. Retain the top part which can later be used to cover the machine. Slide the accessory box with extension table and foot control to the left from the machine.

Wipe the machine clean before you start sewing, and be especially careful with the stitch plate and the space around the needle. The machine is equipped with a number of presser feet and these are packed in two plastic bags. Regarding the placing of the accessories, please refer to page 4 under "Accessory box".

We reserve the right to change the equipment of the machine without prior notice.

Putting the machine away

Pull the plugs out of the wall outlet and the socket of the machine. Wind the cords around your hand, starting at the foot control and push them into the control compartment.

Make sure that all accessories and the foot control and extension table are correctly placed in the box.

The bottom of the foot control should be turned toward the machine. Slide the accessory box into place. Lower the presser foot.

To replace the plastic cover, drop the handle. By raising the handle the machine can easily be transported.

Connecting the foot control

Remove the cord from the foot control and place the control under the table. Insert the foot control plug with the marking "UP" upward into the socket on the right-hand side of the machine.

Connecting to the wall outlet

The voltage (V) and frequency (Hz) are indicated under the base of the machine. Check that these values correspond to those of the electricity source before connecting the machine.



Free arm

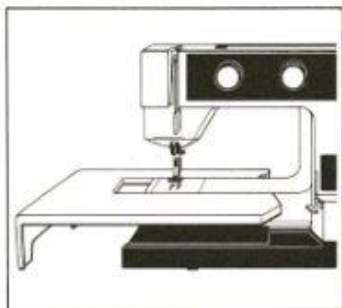
Trouser legs and sleeves can be drawn onto the free arm, making it easy to sew, mend or patch these parts.

Extension table

When you need a larger working surface, attach the extension table.

When positioning the extension table over the free arm, fit the two studs into the holes at the rear of the free arm. Pull out the catch under the front of the table and release it in order to fix the table.

When removing the table, pull out the catch and lift the table away.



Main switch

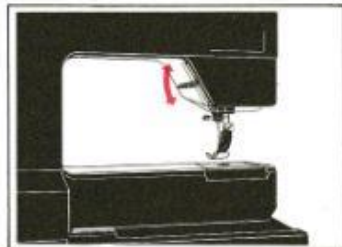
The light and the machine are turned on by pressing the inner part of the main switch.



Presser bar lever

By means of the presser bar lever at the rear of the machine, the presser foot can be raised and lowered. When raising, the presser foot will remain in the raised position, but the height can be increased by 3 mm by pushing the presser bar lever upward and holding it in this position. This is useful when you want to put garments with thick seams under the presser foot.

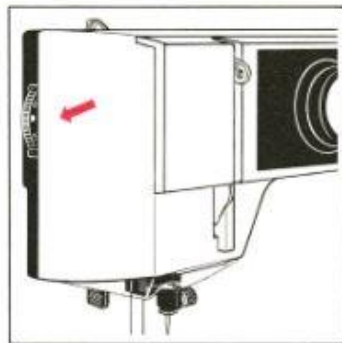
The presser foot should be lowered while sewing.



Presser foot pressure

The presser foot pressure can be adjusted with the aid of a marked dial on the left side of the machine. Normal pressure is obtained by setting the dial at the white dot. The higher the number, the greater the pressure.

By setting the dial at the symbol  the presser foot pressure is completely released. This setting should be used when free-hand sewing with the darning foot (extra accessory), i.e. darning, monogramming, machine embroidery and quilting.



Lowering the feed dog

You lower the feed dog by pushing in the upper part of the push-button. In order to raise the feed dog again push in the lower part.

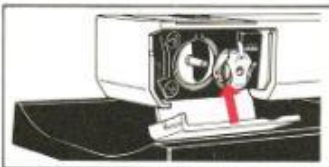
The feed dog should be lowered for a certain type of darning and when sewing on buttons. It is also easier to get thick garments under the presser foot if the teeth of the feed dog are not above the level of the stitch plate.



Removing the bobbin case

Open the door in front of the shuttle by means of the small recess on the left side.

Grip the bobbin case with the thumb and index finger so that the latch is depressed and pull the bobbin case out. The bobbin will remain in the case as long as the latch is depressed. When you release the latch, the bobbin will be released.



Bobbin winding

Turn the empty bobbin until the small round mark on one side is outward.

Slide the bobbin onto the bobbin winding spindle located on the right side of the machine. Raise the presser foot and pull the thread from the thread guide by the needle clamp past the thread guides 30 (see ill. page 1) to the bobbin. Wind the thread around the bobbin a couple of times, beginning from underneath. If you are using a metal presser foot, allow the thread to go through the eye of the needle and under the presser foot. Never run the thread direct from the eye of the needle to the bobbin because you will run the risk of bending the needle. Hold the thread end and lightly depress the foot control. As soon as winding starts you can release the thread end.

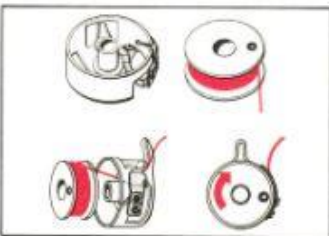


Threading the lower thread

When the bobbin winding is finished, place the bobbin beside its case with the marking upward. The thread should run as shown in the figure. Place the bobbin in its case without turning it around.

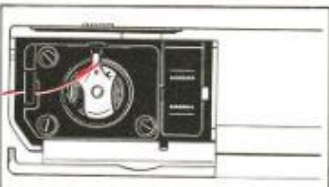
Slide the thread into the slot on the edge of the bobbin case. Pull the thread in under the tension spring. Check that the bobbin rotates in the direction of the arrow (clockwise) when the thread is pulled.

The thread must be pulled in the direction of the spring, otherwise the spring will be overloaded.



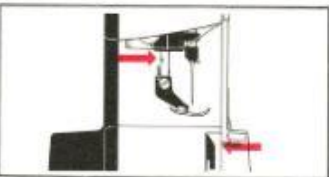
Insertion of the bobbin case

Slide the thread behind the projection of the bobbin case and to the right. Put the bobbin case into place. Press the bobbin case until it clicks to ensure that it fits properly. The thread cutter is located to the left of the bobbin case. Hold the thread end and draw the thread from underneath and up toward the thread cutter. By doing so the thread will be cut off and kept in place. Shut the door.



Thread cutter

On the back of the presser bar you will find a notch, the thread cutter, by means of which you can easily cut off the threads when you have finished sewing.

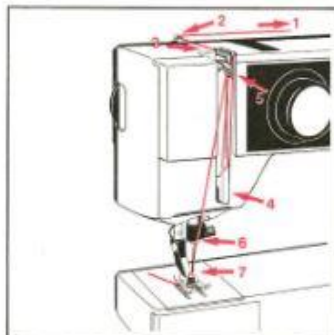


Threading the upper thread

Raise the presser foot. Check that the needle is at its highest position. Place the spool of thread on the left spool pin and thread the machine for sewing.

Slide the thread into thread guide 2 on the upper arm and draw it upward. Then draw the thread to the front between the tension discs 3 and down around thread guide 4. Continue threading by drawing the thread from the right into the slot on thread take-up lever 5 and draw it down to the needle, ensuring that it goes through thread guide 6.

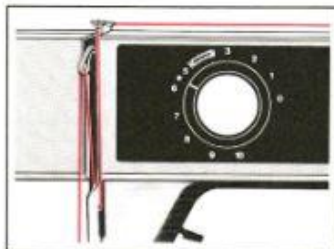
Thread the needle from the front. Due to the white color of the presser foot ankle the needle-eye is clearly seen and the threading of the needle, 7, is easier. Pull the thread under the presser foot about 15 cm (6") toward the rear.



Tension of the upper thread

The thread tension scale is graduated from 0–10. The higher the number, the tighter the tension. Normal thread tension is obtained by setting the dial at the white dot. It may be necessary to adapt the thread tension to the thickness of the thread and the type of fabric.

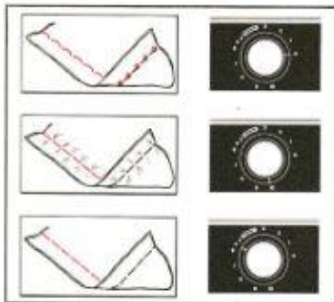
There is also a mark on the thread tension scale for the tension that is suitable for making buttonholes, for satin stitching, topstitching, decorative stitches, embroidering, etc.



Correct and incorrect thread tension

In order to easily understand the importance of correct thread tension, you can try different thread tensions by sewing on a scrap of fabric. Begin by using an excessively loose tension, i.e. set the tension dial near "0". The lower thread lies straight and the upper thread is drawn underneath the fabric. If, however, you set the dial at the highest number, the opposite will occur, or the seam may pucker. The thread tension is correct when the threads interlock in the middle of both layers of fabric.

Please note that even the best quality thread may vary in thickness. When sewing in fine fabrics, the knot may sometimes be visible.



Accessory box

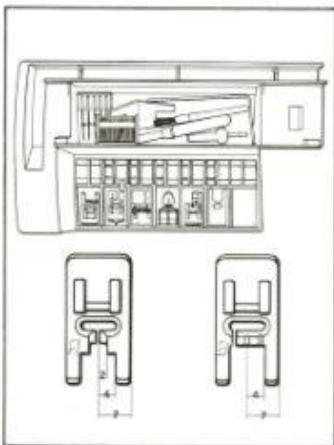
Store the accessories in the accessory box. By placing them as illustrated, it will be easier for you to remove and replace the box. The presser feet are marked with letters.

The different feet are used for different purposes.

Presser foot A is fitted on the machine at delivery and is used for straight stitching, zig-zag and other utility stitches. When sewing close zig-zag stitches, decorative stitches or seams in soft knits, use presser foot B.

The presser feet have notches or markings which can be used as guides when sewing. When straight stitching with the needle in the center position, you will have a 7 mm (1/4") seam allowance if you guide the fabric even with the outer edge of the foot; 4 mm (3/16") at the inner edge and 2 mm (3/32") at the innermost notch on presser foot A.

Zipper foot E can be attached to the right or to the left of the needle, making it easy to sew both sides of the zipper. Edging foot J is used for overcasting in light fabrics. The tiny bar prevents the fabric from puckering.



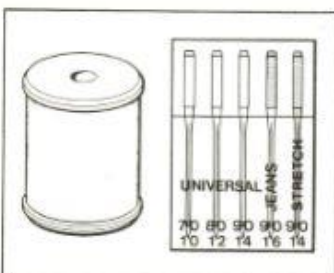
Needle and thread

The machine is delivered with a spool of synthetic thread, which can be used for all types of fabrics and most seams. Mercerized cotton can also be used.

For buttonholes, topstitching and darning embroidery silk No. 30–50 is recommended.

Always use needles coded 130/705H. The needle fitted in the machine is No. 80.

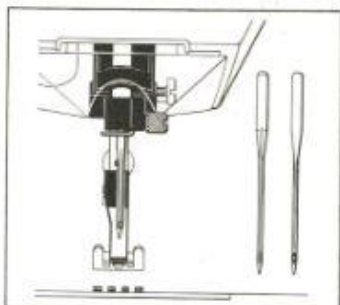
Two needles for sewing in stretch fabric and denim are specially designed for the purpose.



Changing the needle

Even if the needles look alike there can be slight variations which can affect the sewing result. Be sure to use high quality needles.

Only a completely undamaged needle will give perfect sewing results. Therefore, change the needle if you have the slightest reason to believe that it is bent or that the point is damaged. To remove the needle, loosen the screw in the needle clamp. With the flat side of the shank away from you, insert the new needle into the needle socket as far as it will go. Tighten the screw with the screwdriver.



Stitch selection

The different stitches on the pattern scale are indicated with white and green symbols. The required stitch is set by turning the stitch selector to the corresponding symbol. You have the choice of three different widths for zig-zag and reinforced zig-zag.

Ordinary and reinforced straight stitch can be sewn with the needle at the center or left needle position. The left needle position is suitable when sewing narrow hems and when sewing in light fabrics where the fabric is well supported in the outer edge of the needle hole.



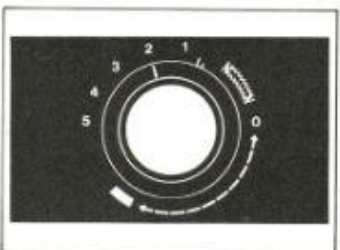
Choice of stitch length

Set the stitch length by means of the stitch length dial. The center of this dial is used for reverse sewing. As long as the button is depressed the machine will sew in reverse, but will resume normal forward sewing as soon as it is released. This is very useful when backtacking at the end of a seam. The symbol  indicates the stitch length which is best for sewing buttonholes.

Always use the recommended stitch length to start with but experiment until you arrive at the exact stitch length for the actual work you will be doing.

The stitch length of the "white" stitches can be varied between 0 and 5 mm, whereas the "green" stitches have a fixed length. When you want to sew one of the "green" stitches, turn the stitch length dial to the right to the green marking .

The settings of the other stitches are shown on the table on page 8.



Straight stitching

Check that the needle is in the highest position. Turn the stitch selector to the straight stitch symbol.

Straight stitching is used to join fabric which does not stretch. When an elastic stitch is required for sewing stretch fabrics, use the reinforced straight stitch or overlock stitch. The overcast stitch is very suitable for sewing light fabrics.

Set the stitch length dial to the recommended basic setting 2.5 but experiment until you arrive at the exact stitch length for the actual work you will be doing.

Increase the stitch length when basting and topstitching.

It is even possible to do straight stitching with the needle in the left needle position by turning the stitch selector one step to the left. This is very useful when sewing light fabrics.

Zig-zag

Check that the needle is in the highest position. You have the choice of three zig-zag widths, 1.5, 3 and 5 mm.

Turn the stitch selector to the required zig-zag symbol. Recommended stitch length 1.5–2.5.

Zig-zag is used for sewing on lace, gathering, bound edging, appliques etc.

Three-step zig-zag is recommended for overcasting, as it binds better and is more attractive.

Three-step zig-zag

Check that the needle is in the highest position. Turn the stitch selector to symbol . Recommended stitch length 1.

Three-step zig-zag is suitable for overcasting most fabrics, especially stretch, lightweight or loosely woven fabrics. It has many advantages compared to ordinary zig-zag. It is more elastic and will not pucker the edge of the fabric. It is ideal for sewing terry cloth and is also used for darning and mending.

Blindstitching

Blindstitching is used for hemming skirts made of woven and knitted fabrics without the stitches being visible on the right side.

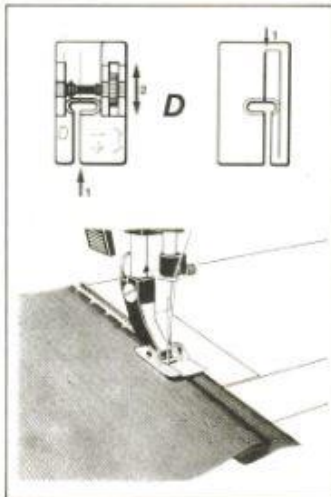
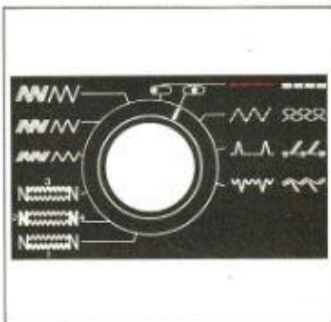
Check that the needle is in the highest position. Set the stitch selector at the symbol . Recommended stitch length 1.5.

The thicker and softer the fabric, the less visible the stitches will be. When sewing lightweight woven fabrics, it is unavoidable that a small stitch will show on the right side.

Fold the fabric as illustrated. As fabrics vary in thickness the presser foot D can be shifted sideways so that the edge guide 1 underneath may be set according to the thickness of the fabric.

Be sure that the folded edge follows the edge guide 1 underneath the presser foot.

Sew a few inches and check that the large zig-zag stitches catch just one thread of the folded edge. If the stitches fail to reach the fold, turn the red roller slightly toward +. If they are too far in on the fabric fold, turn the roller toward -.

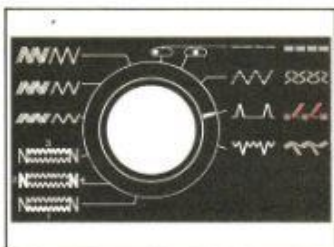


Overlock

Check that the needle is in the highest position. Turn the stitch selector to the symbol  and the stitch length dial to the green marking.

The overlock is used for joining many fabrics but is particularly suitable for producing narrow, supple stretch seams in jersey, velour, stretch terry cloth and other knitted fabrics.

With the overlock stitch you join and overcast simultaneously. Use 5 mm ($\frac{1}{8}$ ") seam allowance. When sewing knits, reduce the presser foot pressure slightly.

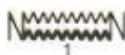


Buttonholes

When sewing buttonholes, change to the buttonhole foot C. This foot has graduated markings to help you make the buttonholes the same length. Decrease the upper thread tension by turning the thread tension dial to the buttonhole symbol.

Set the stitch selector and stitch length dial at the buttonhole symbol. The finer thread you use, the more attractive and even the buttonhole will be. Make a mark on the fabric where you wish to begin the buttonhole.

Always test sew a buttonhole and adjust the stitch length setting. Insert the fabric under the presser foot, remembering that the machine will begin to sew in reverse.



Set the stitch selector to symbol 1. The machine sews the first column in reverse. Stop when you reach the correct column length.



Turn to symbol 2-4. Now the machine will form the bar tack. Sew three or four stitches.

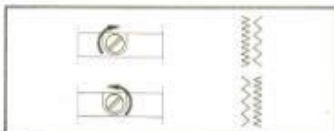


Turn to symbol 3. Sew the other column the same length as the first one.



Turn back to symbol 2-4. The machine will form the final bar tack. Sew three or four stitches. Turn to symbol 1 and lock the threads in the first column.

By means of a screw on top of the machine, under the handle, the tightness of the columns can be adjusted. If the left column is tighter than the right one, tighten the screw slightly. If the right column is tighter than the left one, loosen the screw slightly.



Corded buttonholes

A small cord can be used to sew buttonholes in elastic material, in order to keep the shape better. Attach the cord around the projection at the heel of the buttonhole foot as shown in the illustration and sew the buttonhole in the normal way.

In heavy garments you can sew reinforced buttonholes by sewing the columns twice and the bar tacks the second time.



Cutting the buttonhole

Pierce the fabric at a right angle until the curved blade edge reaches down to the buttonhole.

With the knife more or less parallel to the fabric, push forward, taking care not to cut the columns of the buttonhole. The small red bead serves as a guide. Cut the buttonhole to the middle and then repeat the cut from the other direction.



Sewing on buttons

Lower the feed dog. Remove the presser foot, put the button in place and lower the presser bar. Set the stitch selector at the widest or intermediate zig-zag. Turn the handwheel toward you and test carefully that the needle enters the first hole and then the other hole. Sew five or six stitches. Move to the other holes and repeat. Set the needle to straight stitch in the left needle position and fasten the threads with a few stitches.

When a "shank" is required, use the button reed as illustrated.



Recommended setting of stitches

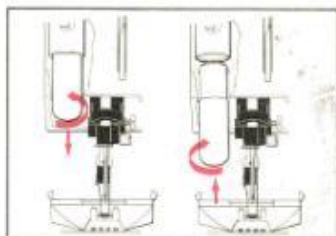
Stitch	Range of use	Stitch length	Presser foot
Straight stitch 	Joining, sewing in zippers Topstitching, tacking (basting) Gathering Use left needle position when sewing light fabrics.	2-2.5 4-5 3-3.5	A
Zig-zag 	Sewing on lace, gathering, bound edging, appliques, etc. Satin stitching Three different stitch widths.	1.5-2.5 0.3-0.5	A B
Three-step zig-zag 	Overcasting, darning and mending of most fabrics. Ideal for sewing terry cloth.	1	A
Blind hem stitch 	Hemming garments of woven or knitted fabrics without the stitches being visible on the right side.	1.5	D
Overcast stitch 	Joining and overcasting of lightweight, woven and elastic fabrics.	0.8	J
Reinforced straight stitch 	Joining seams in stretch fabrics and for decorative topstitching. This stitch is elastic and stronger than ordinary straight stitching. Can also be sewn in the left needle position.	Green marking	A
Overlock stitch 	For narrow, supple stretch seams in jersey, stretch velour and other knitted fabrics.	Green marking	J
Reinforced zig-zag (Ric-Rac) 	For pronounced topstitching, overlapping seams and appliques in leather. Three different stitch widths.	Green marking	B
Decorative stitches 	For decorative seams and appliques.	Green marking	B

Changing the light bulb

The lamp is located to the left of the needle. First remove the lamp guard. By inserting the small screwdriver in the recess at the left edge and applying slight downward leverage, you can slide the guard down to the stitch plate.

To remove, press the light bulb upward, turn a quarter turn in the direction of the arrow. To insert the new light bulb, push it upward and turn it a quarter turn in the direction of the arrow.

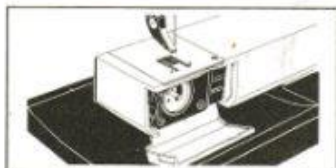
The wattage of the bulb is indicated on the rear of the machine.



Care of the machine

If you want to clean the machine, remove the presser foot and lower the feed dog. There is a recess in the free arm to the right above the hook cover. Push the stitch plate straight up and backward at the same time until it loosens. Clean between the teeth of the feed dog with the brush you will find in the accessory box.

When replacing the stitch plate, insert it from behind into the recess in the arm. Ease the front edge up onto the small pin and continue to push it forward until it snaps into place.



Belts

Belt adjustment is not required.

Why haven't I got the results I expected?

Always start by checking the needle

An important part which needs to be changed from time to time is the needle. Always start with a new needle as soon as you discover that a seam is not what you expected. Check that it is correctly inserted.

Unattractive stitches

The thread tension is not correct. See page 4.

The machine may be incorrectly threaded. The correct threading is shown on pages 3 and 4.

Wrong upper thread. It should be of the same thickness as the lower thread.

Bobbin wrongly inserted in the bobbin case. See page 3.

The needle breaks

You may have helped the machine to feed by pulling the fabric. The needle can easily strike against the needle plate and break.

The upper thread breaks

Check the thread spool to see that it has not caught in any way.

The needle eye may have sharp edges which cut the thread. If so, change the needle. See page 5.

The upper thread is incorrectly threaded. See page 4.

The upper thread may have too much tension. Refer to thread tension, page 4.

The thread is knotted.

The hole in the needle plate may be chipped and have sharp edges. Replace the needle plate.

Lower thread breaks

The bobbin case is incorrectly inserted. See page 3.

The lower thread may be incorrectly threaded. See page 3.

The bobbin is overwound.

Uneven thread tension

This may be due to poor quality thread.

Irregular bobbin winding

The bobbin is not placed correctly. See page 3.

The machine is not correctly threaded for bobbin winding. See page 3.

The fabric puckers

The upper thread tension is too tight. See page 4 for correct thread tension.

The machine does not feed the fabric

The stitch length is too short. Turn the stitch length dial to a higher number.

The feed dog may be lowered. Raise it by pressing the lower part of the feed dog button. See page 3.

The presser foot pressure is too low. See page 2.

The feed dog is full of dust and dirt. Clean with the brush. See instructions above.

Machine runs sluggishly

Dirt or lint has fastened under the needle plate. Loosen the needle plate and brush clean between the teeth of the feed dog. See instructions above.

Dirt or lint has fastened in the hook. Remove the bobbin case and clean with the brush. See instructions above.

We reserve the right to change the machine equipment without any previous notice, or make modifications in the design or appearance of the machine, which do not negatively affect the function.